

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

EMC CORPORATION AND EMC ISRAEL	)	
DEVELOPMENT CENTER, LTD.,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	C.A. No. 12-956 (GMS)
	)	
ZERTO, INC.,	)	
	)	
Defendant.	)	

**JOINT CLAIM CONSTRUCTION CHART**

Pursuant to the Scheduling Order in this case, the Parties hereby submit this Joint Claim Construction Chart.

**I. AGREED CLAIM CONSTRUCTIONS**

The parties have agreed upon the construction for the following terms:

**A. U.S. Patent No. 7,577,867**

	CLAIM TERM OR PHRASE	AGREED CONSTRUCTION
1.	“acknowledgement(s)” (Claims 9-11, 13, 18, 35)	“indication(s) that a request was received”
2.	“confirmation(s)” (Claims 11, 12, 37-39)	“indication(s) that a request was completed”
3.	“cross-tagging success” (Claim 12, 39)	“an indication that a consistency group was successfully tagged”

	CLAIM TERM OR PHRASE	AGREED CONSTRUCTION
4.	“consistency group” (Claims: 9-10, 16, 18, 33-34, 45)	“a basic logical entity for which data protection services, such as replication, tagging and journaling, are provided by a DPA; a consistency group includes (i) at least one logical storage unit for a source side storage system that is to be protected, (ii) corresponding logical units for a backup site, and (iii) at least one logical unit used for journaling at the backup site by storing a journal, which is a record of write transactions used to maintain and rollback a duplicative storage system to a previous point in time”
5.	“data protection” (Claim 33)	Plain and ordinary meaning.
6.	“data protection appliance” or “DPA” (Claims 9-13, 16, 18, 33-34, 37-41, 45)	“a computer or a cluster of computers that serve as a data protection appliance, responsible for data protection services including inter alia data replication of a storage system, and journaling of I/O requests issued by a host computer to the storage system by storing the I/O requests in a journal, which is a record of write transactions used to maintain and rollback a duplicate storage system to a previous point in time”
7.	“host device” (Claims: 9, 13, 17, 33, 45)	“an internal interface in a host, to a logical storage unit”
8.	“host device controller(s)” (Claims 9-11, 13, 17, 33-36, 38, 40-41, 44, 45)	“hardware and/or software, associated with a host device, that processes I/O requests”
9.	“initiate tags” * “initiating a tag” (Claims 33, 34, 45)	“begin the process of marking a consistency group at a specific point in time” * “beginning the process of marking a consistency group at a specific point in time”

	CLAIM TERM OR PHRASE	AGREED CONSTRUCTION
10.	“issuing requests” (Claims 9, 33)	“sending requests”
11.	“logical parts of a network” (Claims 33, 45)	“non-physical parts of a network”
12.	“logical parts of a storage area network” (Claims 9, 18)	“non-physical parts of a network of nodes that send and receive I/O and other requests, each node in the network being an initiator or a target, or both an initiator and a target”
13.	“LU” (Claims 9, 16, 18)	“a logical entity provided by a storage system for accessing data from the storage system”
14.	“states” (Claim 16)	Plain and ordinary meaning.
15.	“tag” * “tagging” (Claims 9, 10, 16, 18, 33-34, 39, 45)	“a special write transaction to mark a point in time” * “writing a special write transaction to mark a point in time”

**B. U.S. Patent Nos. 7,603,395 and 7,971,091**

	CLAIM TERM OR PHRASE	AGREED CONSTRUCTION
1.	“application consistent point in time” (Claim 9 (’091 Patent))	“a point in time when all pending write operations for an application have been committed to disk”
2.	“dataset” (Claims 1 (’395 Patent) / 1, 17, 20 (’091 Patent))	“a collection of data”
3.	“production application” (Claims 1, 3, 9, 15 (’395 Patent); 1, 9, 12, 17, 20 (’091 Patent))	“one or more software application(s) that generate(s) data”

	CLAIM TERM OR PHRASE	AGREED CONSTRUCTION
4.	“replication application” (Claims 1-3, 7-8 ('395 Patent); 1, 5, 9, 17, 20 ('091 Patent))	“an application configured to create a replica of a dataset and perform other replication operations”
5.	“replication operations” (Claims 1, 9, 15 ('395 Patent); 1, 9, 17, 20 ('091 Patent))	“operations performed by a replication application, e.g., mirroring and/or backup/recovery operations”

**C. U.S. Patent No. 7,647,460**

	CLAIM TERM OR PHRASE	AGREED CONSTRUCTION
1.	“communication link” (Claims 1, 4, 9, 13, 14, 17, 22-23, 25, 28, 30, 38, 44)	“a path over which data can be transferred”
2.	“in response to the information being written from the CPU to the first storage system” (Claims 28, 30) * “responsive to the information being written from the CPU to the [first/source] storage system” (Claims 1, 22, 38, 44)	Plain and ordinary meaning.
3.	“intranet” (Claims 3, 18, 32, 40, 44)	“a private communication network that uses Internet technologies, including Internet Protocol, to share data and/or resources within a private enterprise”
4.	“mirroring controller” (Claims 1, 10-11, 13, 22-24, 27, 44-46)	“one or more controllers configured to mirror”
5.	“multicasting” (Claim 29)	“transmitting the same data from a source to more than one destination in a single transaction”

	CLAIM TERM OR PHRASE	AGREED CONSTRUCTION
6.	“network cloud” (Claims: 1-3, 5, 18-19, 28-32, 36-40)	“a communication system that implements a protocol wherein information transferred through the cloud includes a destination address so that the information can be transported by the cloud to the appropriate destination”

**D. U.S. Patent No. 6,073,222**

	CLAIM TERM OR PHRASE	AGREED CONSTRUCTION
1.	“clearing the preservation memory” (Claims 2, 21)	“clearing the preservation memory such as by setting information to indicate that there are no valid entries in the storage”
2.	“data block association memory that associates the preserved original data block with a corresponding address in the mass storage system” (Claim 3) * “data block association memory that associates the original data block preserved in the preservation memory with a corresponding address in the mass storage system” (Claim 24)	“memory that stores information providing a correspondence between a preserved original data block and an address in the mass storage system”
3.	“disk level” (Claims 5, 25)	“the level of data blocks of a disk”
4.	“program code means for ...” (Claims 20-26)	Source code implementing the subject function(s) that was submitted as an Appendix to the application that led to the '152 patent, and equivalents thereof.
5.	“selected moment” (Claims 1, 20, 23)	“point in time that was selected”

## II. DISPUTED CLAIM CONSTRUCTIONS

At this time, the Parties do not agree on the constructions of the remaining terms, phrases, and clauses listed below. The intrinsic evidence supporting each Party's constructions is cited in the charts below. The Parties reserve the right to rely on additional intrinsic evidence and/or the intrinsic evidence cited or relied upon by the opposing Party.

### A. U.S. Patent No. 7,577,867

	DISPUTED CLAIM TERM OR PHRASE	EMC PROPOSED CONSTRUCTION	ZERTO PROPOSED CONSTRUCTION
1.	"consistent data recovery" (Claim 9)	<p>This term appears only in the preamble of claim 9 and is not "necessary to give life, meaning, and vitality" to the claims. <i>Pitney Bowes, Inc. v. Hewlett-Packard Co.</i>, 182 F.3d 1298, 1305 (Fed. Cir. 1999). EMC therefore does not believe the term should be construed.</p> <p>Were the Court to construe the claim, however, the term should be given its plain and ordinary meaning. If the Court further construes this term, EMC proposes that the Court adopt the following as its plain and ordinary meaning:</p> <p>"recovery of data as it existed at a point in time when at least one application on at least one host device was in a consistent state"</p> <p><b>Intrinsic Evidence:</b> 1:51-2:34; 5:23-26; 5:42-44; 7:27-42; 8:63-9:4; 19:28-25:2.</p>	<p>"recovery of data from a point in time at which the subject devices are in a consistent state"</p> <p><b>Intrinsic Evidence:</b> 1:12-3:23; 7:27-42; 19:65-25:2.</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
2.	<p>“data protection appliance (DPA) manager”</p> <p>(Claims 9-12, 18, 33-34, 37-39, 45)</p>	<p>This term should be given its plain and ordinary meaning. If the Court further construes this term, EMC proposes that the Court adopt the following as its plain and ordinary meaning:</p> <p>“a computer or a cluster of computers that issues requests to at least one DPA”</p> <p><b>Intrinsic Evidence:</b></p> <p>1:66-5:5; 5:18-22; 5:62-6:30; 20:27-56; 21:55-24:60.</p>	<p>“a DPA that receives a cross-tag instruction, sends quiescence and tag commands, receives confirmations, and sends un-quiesce commands”</p> <p><b>Intrinsic Evidence:</b></p> <p>Fig. 1 &amp; 8 and corresponding text in the written description; 5:18-22; 3:4-5:5; 20:27-24:60.</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
3.	“host device agents” (Claims 9, 17-18)	“hardware and/or software, associated with a host device, that performs tasks on behalf of the host device, including routing and/or intercepting I/O requests”  <b>Intrinsic Evidence:</b> 2:14-3:3; 5:27-28; 5:62-6:30; 10:6-11:50; 15:47-21:41.	“hardware or software, associated with a host device, that intercepts the host’s I/O requests and routes the intercepted requests to a DPA”  <b>Intrinsic Evidence:</b> 2:35-3:23; 5:62-6:30; 10:6-11:50; 15:47-21:41.
4.	“replication facility” (Claims 9, 16, 18)	“one or more components configured to replicate data”  <b>Intrinsic Evidence:</b> 1:66-5:5; 5:62-6:30; 19:38-51; 21:9-17.	“one or more components configured to restore an LU to its former state at the time of a tag”  <b>Intrinsic Evidence:</b> 2:35-3:43; 5:62-6:30.



**B. U.S. Patent Nos. 7,603,395 and 7,971,091**

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
1.	<p>“client file index” (Claims 3, 6 (’091 Patent))</p>	<p>“an index of client files”</p> <p><b>Intrinsic Evidence:</b> 7:13-44; 14:19-25.</p>	<p>“an index of the backed up data items”</p> <p><b>Intrinsic Evidence:</b> ’395 Patent: 7:13-24. ’091 Patent: 7:17-28.</p>
2.	<p>“the copy including at least the portion of the series of transactions that were saved before the generation of the at least one pseudosnapshot” (Claim 1 (’091 Patent))</p> <p>*</p> <p>“the dataset including at least a portion of the series of transactions that were saved before the generation of the at least one pseudosnapshot” (Claims 20 (’091 Patent))</p>	<p>“the copy including a dataset of at least a portion of the series of transactions that were saved before the generation of the at least one pseudosnapshot”</p> <p>*</p> <p>“the dataset including data of the at least a portion of the series of transactions that were saved before the generation of the at least one pseudosnapshot”</p> <p><b>Intrinsic Evidence:</b> Titles; 2:11-50; 3:30-4:12; 6:29-67; 7:25-38; 14:1-45; 15:27-67; 16:1-17:16; 17:39-18:59. Serial No. 11/381,343 (’395 File History): Apr. 9, 2009 Amendment “B” and Response at 9-13. Serial No. 11/381,343 (’091 File History): April. 23, 2009 Amendment “B” and Response at 8-12. Serial No. 11/381,343 (’091 File History): Aug. 19, 2010 Amendment “E” and Response at 10-14.</p>	<p>No construction necessary.</p>
3.	<p>“copying the transactions” (Claims 15 (’395 Patent) 17 (’091</p>	<p>“creating a dataset by copying data from the transactions”</p> <p>*</p>	<p>No construction necessary.</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
	<p>Patent))</p> <p>*</p> <p>“copy of the transactions”</p> <p>(Claims 11, 15, 17 ('395 Patent) 17 ('091 Patent))</p> <p>“copied transactions” (Claim 17 ('091 Patent))</p>	<p>“a dataset created by copying data from the transactions”</p> <p>*</p> <p>“a dataset of copied data from the transactions”</p> <p><b>Intrinsic Evidence:</b></p> <p>Titles; 2:11-50; 3:30-4:12; 6:29-67; 7:25-38; 14:1-45; 15:27-67; 16:1-17:16; 17:39-18:59.</p> <p>Serial No. 11/381,343 ('395 File History): Apr. 9, 2009 Amendment “B” and Response at 9-13.</p> <p>Serial No. 11/381,343 ('091 File History): Apr. 23, 2009 Amendment “B” and Response at 8-12.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 19, 2010 Amendment “E” and Response at 10-14.</p>	
4.	<p>“continuous data protection system”</p> <p>(Claims 1, 2, 4, 6-9, 12-13, 15, 18 ('395 Patent); 1, 9-11, 17-18, 20 ('091 Patent))</p>	<p>This term should be given its plain and ordinary meaning. If the Court further construes this term, EMC proposes that the Court adopt the following as its plain and ordinary meaning:</p> <p>“a system that continually stores a copy of write operations from a production application”</p> <p><b>Intrinsic Evidence:</b></p> <p>2:11-38; 5:14-55; 18:27-59.</p> <p>Serial No. 11/381,343 ('395 File History): Apr. 9, 2009 Amendment “B” and Response at 9-13.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 6, 2008 Amendment “A” and Response at 8-9.</p> <p>Serial No. 11/381,343 ('091 File History): April. 23, 2009 Amendment “B” and Response at 8-12.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 19, 2010 Amendment “E” and Response at 10-14.</p>	<p>“a data protection system that continually stores changes that occur in a production application”</p> <p><b>Intrinsic Evidence:</b></p> <p>'395 Patent: 2:11-38.</p> <p>'091 Patent: 2:16-43.</p>
5.	<p>“event marker”</p> <p>(Claim 1, 6-7, 9, 14, 18 ('395 Patent); 1, 9, 12-13, 17, 20 ('091</p>	<p>“a data structure that includes information that can be used to identify a pseudosnapshot”</p> <p><b>Intrinsic Evidence:</b></p>	<p>“a data structure that includes the date and</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
	Patent))	<p>3:30-45; 13:50-16:17; 16:60-67; 17:58-18:18.</p> <p>Serial No. 11/381,343 ('395 File History): Aug. 20, 2008 Amendment "A" and Response at 9-10.</p> <p>Serial No. 11/381,343 ('395 File History): Apr. 9, 2009 Amendment "B" and Response at 9-13.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 6, 2008 Amendment "A" and Response at 8-9.</p> <p>Serial No. 11/381,343 ('091 File History): April. 23, 2009 Amendment "B" and Response at 8-12.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 19, 2010 Amendment "E" and Response at 10-14.</p>	<p>time at which the pseudosnapshots were created"</p> <p><b>Intrinsic Evidence:</b></p> <p>'395 Patent: Abstract; 3:30-45; 5:56-6:7; 13:50-18:18.</p> <p>'091 Patent: Abstract; 3:35-50; 5:60-6:11; 13:50-18:18.</p> <p>Serial No. 11/381,343: 11/6/08 Amend., at 7-9.</p> <p>Serial No. 11/381,343: 4/23/09 Amend., at 8-12.</p>
6.	<p>"point in time view"</p> <p>*</p> <p>(Claims: 1 ('395 Patent); 1, 20 ('091 Patent))</p>	<p>This term should be given its plain and ordinary meaning.</p> <p><b>Intrinsic Evidence:</b></p> <p>1:34-42; 2:19-30; 3:30-64; 5:41-6:19; 7:39-44; 9:4-15; 13:50-18:42.</p> <p>Serial No. 11/381,343 ('395 File History): Apr. 9, 2009 Amendment "B" and Response at 9-13.</p>	<p>"access to data as it existed at a given point in time"</p> <p><b>Intrinsic Evidence:</b></p> <p>'395 Patent: 2:19-30; 5:41-6:19;</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
			13:50-18:42. '091 Patent: 2:24-35; 5:45-6:23; 13:50-18:42.
7.	“pseudosnapshot” (Claims 1, 8-10, 14-16, 18 ('395 Patent); 1, 5, 9-10, 14-15, 17-18, 20 ('091 Patent))	<p>“a dataset, identified by an event marker, within the continuous data protection system that can be surfaced”</p> <p><b>Intrinsic Evidence:</b></p> <p>Figs. 4 &amp; 5; 2:11-38; 3:30-4:12; 6:20-44; 7:25-64; 12:62-18:59.</p> <p>Serial No. 11/381,343 ('395 File History): Aug. 20, 2008 Amendment “A” and Response at 9-10.</p> <p>Serial No. 11/381,343 ('395 File History): Apr. 9, 2009 Amendment “B” and Response at 9-13.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 6, 2008 Amendment “A” and Response at 8-9.</p> <p>Serial No. 11/381,343 ('091 File History): April. 23, 2009 Amendment “B” and Response at 8-12.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 19, 2010 Amendment “E” and Response at 10-14.</p>	<p>“an item, presented to a user as a traditional snapshot and associated with an event marker, that can be used to surface a copy of application data as it existed at the time of the event marker”</p> <p><b>Intrinsic Evidence:</b></p> <p>'395 Patent: 2:11-38; 3:30-4:12; 6:20-34; 12:62-18:59.</p> <p>'091 Patent: 2:15-43; 3:35-4:17; 6:24-35; 12:62-18:59.</p> <p>Serial No. 11/381,347: 4/9/09</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
			Amend, at 10-13.  Serial No. 11/381,343: 11/6/08 Amend., at 7-9.  Serial No. 11/381,343: 4/23/09 Amend., at 8-12.  Serial No. 11/381,343: 11/19/10 Amend., at 9-13.
8.	<p>“quiesce” *</p> <p>“quiescing [the production application]”<sup>1</sup> (Claims 3 (’395 Patent); 12 (’091 Patent))</p>	<p>“in response to an instruction to do so, enter an inactive state wherein the production application does not generate write operations” *</p> <p>“instructing the production application to enter an inactive state wherein the production application does not generate write operations”</p> <p><b>Intrinsic Evidence:</b> Fig. 4, 3:30-64; 7:1-12; 12:35-45; 13:38-49; 15:17-27; 18:27-42.  Serial No. 11/381,343 (’395 File History): Aug. 20, 2008 Amendment “A” and Response at 9-10.  Serial No. 11/381,343 (’395 File History): Apr. 9, 2009 Amendment “B” and Response at 9-13.</p>	<p>“pause read and write activity” *</p> <p>“pausing read and write activity”</p> <p><b>Intrinsic Evidence:</b> ’395 Patent: 3:30-45; 7:1-12; 12:35-44; 13:39-49;</p>

<sup>1</sup> EMC believes the term “quiescing” should not be construed in isolation and therefore provides a construction for the phrase “quiescing the production application” (Claim 12, ’091 Patent).

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
		<p>Serial No. 11/381,343 ('091 File History): Aug. 6, 2008 Amendment "A" and Response at 8-9.</p> <p>Serial No. 11/381,343 ('091 File History): April. 23, 2009 Amendment "B" and Response at 8-12.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 19, 2010 Amendment "E" and Response at 10-14.</p>	<p>15:17-27; 18:27-42.</p> <p>'091 Patent: 3:35-50; 7:3-16; 12:37-46; 13:39-49; 15:17-27; 18:27-42.</p>
9.	<p>"quiescent state" (Claims 1, 9, 15 ('395 Patent); 1, 9, 17 ('091 Patent))</p>	<p>"a state that results from the production application executing an instruction to quiesce"</p> <p><b>Intrinsic Evidence:</b></p> <p>Fig. 4, 3:30-64; 7:1-12; 12:35-45; 13:38-49; 15:17-27; 18:27-42.</p> <p>Serial No. 11/381,343 ('395 File History): Aug. 20, 2008 Amendment "A" and Response at 9-10.</p> <p>Serial No. 11/381,343 ('395 File History): Apr. 9, 2009 Amendment "B" and Response at 9-13.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 6, 2008 Amendment "A" and Response at 8-9.</p> <p>Serial No. 11/381,343 ('091 File History): April. 23, 2009 Amendment "B" and Response at 8-12.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 19, 2010 Amendment "E" and Response at 10-14.</p>	<p>"a state in which read and write activity is paused"</p> <p><b>Intrinsic Evidence:</b></p> <p>'395 Patent: 3:30-45; 7:1-12; 12:35-44; 13:39-49; 15:17-27; 18:27-42.</p> <p>'091 Patent: 3:35-50; 7:3-16; 12:37-46; 13:39-49; 15:17-27; 18:27-42</p>
10.	<p>reliably<sup>2</sup> *</p>	<p>N/A *</p>	<p>"without error"</p>

<sup>2</sup> EMC believes the term "reliably" should not be construed in isolation and therefore provides a construction for the phrases "a dataset that can be reliably surfaced" (Claim 1, '395 Patent) and "dataset . . . that can be reliably surfaced" (Claim 17, '091 Patent).

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
	<p>“a dataset that can be reliably surfaced”</p> <p style="text-align: center;">*</p> <p>“dataset ... that can be reliably surfaced”</p> <p>(Claims 1 ('395 Patent); 17 ('091 Patent))</p>	<p>“a dataset corresponding to an application consistent point in time that can be surfaced”</p> <p style="text-align: center;">*</p> <p>“dataset ... corresponding to an application consistent point in time that can be surfaced”</p> <p><b>Intrinsic Evidence:</b></p> <p>1:25-43; 3:30-45; 6:8-19.</p> <p>Serial No. 11/381,343 ('395 File History): Aug. 20, 2008 Amendment “A” and Response at 9-10.</p> <p>Serial No. 11/381,343 ('395 File History): Apr. 9, 2009 Amendment “B” and Response at 9-13.</p> <p>Serial No. 11/381,343 ('091 File History): April. 23, 2009 Amendment “B” and Response at 8-12.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 19, 2010 Amendment “E” and Response at 10-14.</p>	<p><b>Intrinsic Evidence:</b></p>
11.	<p>“remote”</p> <p>(Claims 12 ('395 Patent); 8 ('091 Patent))</p>	<p>This term should be given its plain and ordinary meaning.</p> <p><b>Intrinsic Evidence:</b></p> <p>Fig.1; 3:46-64; 4:16-28; 6:36-57; 7:25-38; 8:37-49; 13:50-67; 16:26-33; 19:12-22.</p>	<p>“located at a different place”</p> <p><b>Intrinsic Evidence:</b></p> <p>'395 Patent: 3:46-64; 6:36-44.</p> <p>'091 Patent: 3:51-4:2; 6:39-47.</p>
12.	<p>“surfacing of a copy of the at least a portion of the series of transactions”</p> <p style="text-align: center;">*</p> <p>“surfacing the copy of at least a portion of the series of</p>	<p>“creating a data structure from the dataset of the at least a portion of the series of transactions”</p> <p style="text-align: center;">*</p> <p>“creating the data structure from the dataset of at least a portion of the series of transactions”</p> <p style="text-align: center;">*</p> <p>“creating a data structure from the dataset of at</p>	<p>No construction required.</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
	<p>transactions”</p> <p style="text-align: center;">*</p> <p>“surfacing a copy of at least a portion of the series of transactions”</p> <p style="text-align: center;">*</p> <p>“surfacing of a copy of transactions”</p> <p>(Claims 1, 8-9, 14 ('395 Patent))</p>	<p>least a portion of the series of transactions”</p> <p style="text-align: center;">*</p> <p>“creating a data structure from the dataset of a series of transactions”</p> <p><b>Intrinsic Evidence:</b></p> <p>Titles; Figs. 4 &amp; 6; 2:11-50; 3:30-4:12; 6:29-67; 7:25-38; 14:1-45; 15:27-18:59.</p> <p>Serial No. 11/381,343 ('395 File History): Apr. 9, 2009 Amendment “B” and Response at 9-13.</p> <p>Serial No. 11/381,343 ('091 File History): April. 23, 2009 Amendment “B” and Response at 8-12.</p> <p>Serial No. 11/381,343 ('091 File History): Aug. 19, 2010 Amendment “E” and Response at 10-14.</p>	
13.	<p>“surfaced”</p> <p style="text-align: center;">*</p> <p>“surfacing”</p> <p>(Claims 1, 4-5, 8-9, 12-15 ('395 Patent); 1, 2, 9, 17, 20 ('091 Patent))</p>	<p>See EMC’s proposed constructions for “surfacing...” above.</p>	<p>“generating a snapshot of data as it existed at a given point in time from a series of transactions stored in a write journal”</p> <p><b>Intrinsic Evidence:</b></p> <p>'395 Patent: 2:11-38; 3:30-35; 6:35-7:37; 13:39-14:45; 16:1-18:58.</p> <p>'091 Patent: 2:16-43; 3:35-50; 6:39-7:42;</p>



	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
			13:13:39-14:45; 16:1-18:58.
14.	<p>“wherein at least one of the at least one pseudosnapshot corresponds to a quiescent state for at least a portion of the series of transactions in the write journal”</p> <p>(Claim 1 (’395 Patent))</p>	<p>“wherein at least one pseudosnapshot corresponds to a dataset identified by at least a portion of the series of transactions in the write journal reflecting a state resulting from the production application receiving an instruction to quiesce”</p> <p><b>Intrinsic Evidence:</b></p> <p>Fig. 4, 3:30-64; 7:1-12; 12:35-45; 13:38-49; 15:17-27; 18:27-42.</p> <p>Serial No. 11/381,343 (’395 File History): Aug. 20, 2008 Amendment “A” and Response at 9-10.</p> <p>Serial No. 11/381,343 (’395 File History): Apr. 9, 2009 Amendment “B” and Response at 9-13.</p> <p>Serial No. 11/381,343 (’091 File History): Aug. 6, 2008 Amendment “A” and Response at 8-9.</p> <p>Serial No. 11/381,343 (’091 File History): April. 23, 2009 Amendment “B” and Response at 8-12.</p> <p>Serial No. 11/381,343 (’091 File History): Aug. 19, 2010 Amendment “E” and Response at 10-14.</p>	<p>No construction necessary.</p>
15.	<p>“write journal”</p> <p>(Claims 1, 4, 5 (’395 Patent); 1, 20 (’091 Patent))</p>	<p>“storage in which a series of write transactions are stored along with information that can be used to identify an order of the write transactions”</p> <p><b>Intrinsic Evidence:</b></p> <p>Figs. 1 &amp; 5; 5:34-6:19; 15:27-67; 17:58-18:2.</p>	<p>“an area of storage in which a series of write transactions are stored in chronological order”</p> <p><b>Intrinsic Evidence:</b></p> <p>’395 Patent: Fig. 5 and corresponding text in the</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
			written description; 5:34-6:19; 15:27-67.  '091 Patent: Fig. 5 and corresponding text in the written description; 5:38-6:23; 15:27-67.

**C. U.S. Patent No. 7,647,460**

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
1.	“storage system” (Claims 1,10-13, 22-24, 27-30, 36-38, 42-46)	<p>“the set of components that stores and controls the storage of information written from the CPU, including one or more storage devices and one or more controllers”</p> <p><b>Intrinsic Evidence:</b> 1:36-61; 3:18-21; 5:45-48; 6:6-44; 10:29-46; 11:38-12:11; Figs 1, 2, and 5.  Serial No. 08/935,344: May 9, 2000 Amendment and Response at 9-18.  Serial No. 08/935,344: July 25, 2000 Office Action at 2-3.  Serial No. 08/935,344: Oct. 25 2000 Amendment and Response at 5-15.  Serial No. 08/935,344:</p>	<p>“the combination of a storage device and its storage controller”</p> <p><b>Intrinsic Evidence:</b> Figs 1, 2, and 5, esp. Items 3 and 5, and corresponding text in the written description;  1:17-25;  Serial No. 08/935,344: 5/9/00 Amend., at 10-18.  Serial No. 08/935,344: 10/15/00 Amend., at 5-15.  Serial No. 08/935,344: 12/22/00 Response, at 3-5.  Serial No. 08/935,344: Appeal Brief, at 8-20.  Serial No. 08/935,344: Reply Brief, at 5-19.</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
		<p>Appellant's Appeal Brief at 2-4, 8-15, 20, 24-25.</p> <p>Serial No. 08/935,344: Appellant's Reply Brief at 5-17.</p> <p>Serial No. 08/935,344: Appellant's 2nd Reply Brief at 4-12.</p> <p>Serial No. 08/935,344: Appeal Brief (Amended) at 2-4, 6-13, 18-29.</p> <p>U.S. Patent No. 5,960,216 (incorporated by reference): Figs. 1-3; 1:21-32; 3:48-62; 4:7-5:16; 5:32-43; 7:38-49; 14:1-60; 18:27-20:65.</p> <p>U.S. Patent No. 6,038,605 (incorporated by reference): Figs. 1-3; 1:24-35; 3:41-65; 4:10-5:20; 5:36-48; 7:44-54; 14:6-64.</p>	<p>Serial No. 08/935,344: 2nd Reply Brief, at 4-12</p> <p>Serial No. 08/935,344: Decision, at 5-7.</p>
2.	<p>"controller" (Claims 38, 42-43)</p>	<p>"a component of the storage system that controls at least one function of the storage system"</p> <p><b>Intrinsic Evidence:</b></p> <p>Figs. 1, 2, 4 &amp; 5; 1:17-2:30; 2:46-3:17; 5:45-6:5; 6:55-8:45; 8:65-10:4; 10:29-11:37.</p> <p>U.S. Patent No. 5,960,216 (incorporated by reference): Figs. 1-3; 1:17-32; 3:48-62; 4:7-5:16; 5:32-43; 7:38-49; 14:1-60; 18:27-20:65.</p> <p>U.S. Patent No. 6,038,605 (incorporated by reference): Figs. 1-3; 1:24-35; 3:41-65; 4:10-5:20; 5:36-48; 7:44-54; 14:6-64.</p>	<p>"a device that manages the operation of and connection to another device"</p> <p><b>Intrinsic Evidence:</b></p> <p>Fig. 1, esp. Items 5 and 7, and corresponding text in the written description; 1:17-2:30; 2:46-3:17; 5:45-6:5; 6:55-8:45; 9:25-10:4; 10:61-11:37.</p> <p>Serial No. 08/935,344: 8/30/99 Amend., at 8.</p> <p>Serial No. 08/935,344: 1/21/00 Amend., at 2.</p>
3	<p>"means ... for</p>	<p><u>Function:</u> mirroring at least some of the information written from</p>	<p>"storage controllers located at the respective storage systems and</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
	mirroring” (Claims 11, 13, 43, 46)	the CPU to the first storage system in the second storage system  <u>Structure:</u> source and target storage controllers, network RDF controller, and network interface unit  <b>Intrinsic Evidence:</b>  Figs. 1, 2, 4 & 5; 1:17-2:30; 2:46- 3:17; 5:45-6:5; 6:55-8:45; 8:65- 10:4; 10:29-11:37.  U.S. Patent No. 5,960,216 (incorporated by reference): Figs. 1-3; 1:17-32; 3:48-62; 4:7-5:16; 5:32-43; 7:38-49; 14:1-60; 18:27- 20:65.  U.S. Patent No. 6,038,605 (incorporated by reference): Figs. 1-3; 1:24-35; 3:41-65; 4:10-5:20; 5:36-48; 7:44-54; 14:6-64.	configured to mirror data written to the first storage system to the second/third/target storage system(s)”  <b>Intrinsic Evidence:</b>  Figs 1, 2, 4, and 5, esp. Items 3 and 5, and corresponding text in the written description; 1:17-3:21; 5:45-6:5; 6:55-8:45.
4	“mirror” <sup>3</sup> (Claims 1, 22, 23, 44)  *  “to mirror at least some of the information written from the CPU to the first storage system in the second storage system”	“maintain a continually updated copy of data that exists on a portion of the first storage system on the second storage system by copying each write to the portion of the first storage system to the second storage system”  *  “maintain a continually updated copy of data that exists on a portion of the first storage system	“create an identical copy of data that exists on one system on a second system”  <b>Intrinsic Evidence:</b>  1:10-3:21.  Serial No. 08/935,344: 8/30/99 Amend., at 9.

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EMC believes the term “mirror” should not be construed in isolation and therefore provides a construction for the phrases “to mirror at least some of the information written from the CPU to the first storage system in the second storage system” (Claims 1, 22, 44), and “to mirror at least some of the information written from the CPU to the first storage system in both the second and third storage systems” (Claim 23).

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
	<p>(Claims 1, 22, 44)</p> <p>*</p> <p>“to mirror at least some of the information written from the CPU to the first storage system in both the second and third storage systems”</p> <p>(Claim 23)</p>	<p>on the second storage system by copying each write to the portion of the first storage system to the second and third storage systems”</p> <p><b>Intrinsic Evidence:</b></p> <p>1:36-50; 11:38-12:3.</p> <p>Serial No. 08/935,344: Aug. 30, 1999 Amend. at 9-15;</p> <p>Serial No. 08/935,344: Nov. 4, 1999 Office Action at 1-6.</p> <p>Serial No. 08/935,344: Jan. 21, 2000 Amendment and Response at 2-6.</p> <p>Serial No. 08/935,344: Oct. 25 2000 Amendment and Response at 5-15.</p> <p>Serial No. 08/935,344: Appellant’s Appeal Brief at 2-4, 8-15, 20, 24-25.</p> <p>Serial No. 08/935,344: Appellant’s Reply Brief at 5-17.</p> <p>Serial No. 08/935,344: Appellant’s 2nd Reply Brief at 4-12.</p> <p>Serial No. 08/935,344: Appeal Brief (Amended) at 2-4, 6-13, 18-29.</p> <p>U.S. Patent No. 5,960,216 (incorporated by reference): 4:7-20</p> <p>U.S. Patent No. 6,038,605 (incorporated by reference): 4:10-24</p>	

**D. U.S. Patent No. 6,073,222**

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
1	<p>“actual data storage device” (Claims 1, 10, 20, 23)</p>	<p>“a readable and writable storage device”</p> <p><b>Intrinsic Evidence:</b> Abstract; Claims 1, 20, 23; Figs. 1, 3, 6, 7A; 2:15-42; 8:16-63; 13:4-24; 19:14-16.  U.S. Patent No. 5,649,152 (incorporated by reference): Abstract; 2:52-53; 3:50-52; 4:25-41; 6:17-64.</p>	<p>“a physical storage device, such as a hard drive or tape storage”</p> <p><b>Intrinsic Evidence:</b> 2:15-42; 5:46-64; 7:61-8:11; 8:16-54; 13:4-24  Figs. 1, 3, 7A, 7B; esp. Items 20 and 24, and corresponding text in the written description.</p>
2	<p>“mass storage system” (Claims 1, 3, 5-8, 20, 23-26)</p>	<p>“writable block-addressable storage system”</p> <p><b>Intrinsic Evidence:</b> Abstract; Claims 1, 3 &amp; 5-8; Figs. 1-5 and 7A; 2:15-41; 3:34-4:6; 4:20-5:45; 6:27-50; 8:16-10:33; 11:1-33; 12:24-65; 13:45-14:2; 14:59-66; 15:22-16:67; 17:24-46; 19:6-55; 20:8-21:10; 21:25-22:16; 23:6-18; 23:45-59; 24:50-60; 25:16-32; 25:56-26:25; 26:55-67; 27:21-49; 27:61-28:30; 28:42-51; 29:10-30:57.  U.S. Patent No. 5,649,152 (incorporated by reference): Abstract; Figs. 1, 4-5; 1:16-2:31; 2:49-64; 3:6-21; 3:42-4:19; 4:30-62; 5:5-41; 5:60-65; 6:4-22; 6:41-7:39.</p>	<p>“a physical storage device, such as a hard drive or tape storage device”</p> <p><b>Intrinsic Evidence:</b> Fig. 1, 3, 7A, 7B, esp. Items 20 and 24, and corresponding text in the written description;  2:15-42; 5:46-64; 7:61-8:11; 8:16-54; 13:4-24.</p>
3	<p>“original data block” (Claims 1-6, 20-22, 24-26)</p>	<p>This term should be given its plain and ordinary meaning.</p> <p><b>Intrinsic Evidence:</b> Abstract; Figs. 1-5, 7A; 6:2-5; 19:37-61; 21:21-24.</p>	<p>“a block of data stored on the mass storage system at the time the snapshot was taken”</p> <p><b>Intrinsic Evidence:</b> Abstract; Fig. 7A; 8:54-64; 19:28-</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
		U.S. Patent No. 5,649,152 (incorporated by reference): Abstract; 5:22-34; 5:48-60.	67; 22:24-25:15
4	“preservation memory” (Claims 1-2, 8-9, 20-22, 24)	<p>“storage used for preserving data blocks”</p> <p><b>Intrinsic Evidence</b></p> <p>Abstract; Claims 1-2, 8-9, 20-22, 24; Figs. 1-5, 7A; 8:65-9:12; 11:1-67; 13:1-14:45; 14:66-15:21; 17:1-19:67; 21:11-27; 22:24-43; 22:52-24:41; 25:34-26:3.</p> <p>U.S. Patent No. 5,649,152 (incorporated by reference): Abstract; Figs. 1-2; 2:49-65; 3:43-49; 3:66-4:62; 5:48-6:10; 6:41-50.</p>	<p>“memory dedicated to holding a snapshot of a portion of memory at the selected moment”</p> <p><b>Intrinsic Evidence:</b></p> <p>Abstract;</p> <p>Figs. 1, 3 and 7A, esp. Item 22, and corresponding text in the written description;</p> <p>6:1-48; 8:65-9:12; 11:1-12:2; 12:24-36; 13:45-14:45; 14:66-15:37; 17:1-18:49; 19:6-55; 21:65-22:51; 23:6-25:16.</p>
5	“virtual device” (Claims 1, 4, 7-8, 10, 20, 22)	<p>“a device that appears as an actual storage device”</p> <p><b>Intrinsic Evidence:</b></p> <p>Abstract.</p> <p>U.S. Patent No. 5,649,152 (incorporated by reference): Abstract; Fig. 2; 2:49-64; 3:6-21; 4:14-48; 5:48-6:64; 7:15-39.</p>	<p>“software that mimics the functions of a physical device”</p> <p><b>Intrinsic Evidence:</b></p>
6	“when a new block written to the mass storage system is to overwrite the original data block” (Claims 1, 20)	<p>This term should be given its plain and ordinary meaning. If the Court further construes this term, EMC proposes that the Court adopt the following as its plain and ordinary meaning:</p> <p>“in response to a new block written to the mass storage system that is to overwrite the original data block”</p> <p><b>Intrinsic Evidence:</b></p> <p>Abstract; Figs. 4 and 7A; 5:65-</p>	<p>“before a new block written to the mass storage system is to overwrite the original data block”</p> <p><b>Intrinsic Evidence:</b></p> <p>Figs. 4 and 7A and corresponding text in the written description; 8:54-64; 19:5-61; 22:24-25:15.</p>

	<b>DISPUTED CLAIM TERM OR PHRASE</b>	<b>EMC PROPOSED CONSTRUCTION</b>	<b>ZERTO PROPOSED CONSTRUCTION</b>
		6:11; 8:64-9:12; 11:1-34;13:45- 14:21; 17:1-18:2; 19:5-61; 22:24- 26:33.  '152 patent: Abstract; Fig. 2; 4:25- 49; 5:48-65.	

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March 21, 2014

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